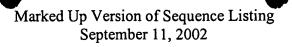SUBSTITUTE SEQUENCE LISTING

<110> CROCE, Carlo M.
      ISHII, Hideshi

<120> COMPOSITIONS, KITS, AND METHODS RELATING TO THE HUMAN
      FEZ1 GENE, A NOVEL TUMOR SUPPRESSOR GENE

<130> 9855-30U1 (209855.0081)

<140> NOT YET ASSIGNED
<141> 2000-02-25

<150> US 60/121,537
<151> 1999-02-25

<160> 60 70

<170> PatentIn Ver. 2.1

<210> 1
<211> 9048
<212> DNA
<213> Homo sapiens

<400> 1
```
gcctttccaa gaccctgccc ggccctgccc catcctcagc cccgagtcac catgggcagc 60
gtcagtagcc tcatctccgg ccacagcttc cacagcaagc actgccgggc ttcgcagtac 120
aagctgcgca agtcctccca cctcaagaag ctcaaccggt attccgacgg gctgctgagg 180
tttggcttct cccaggactc cggtcacggc aagtccagct ccaaaatggg caagagcgaa 240
gacttcttct acatcaaggt cagccagaaa gcccgggggct cccatcaccc agattacacg 300
gcactgtcca gcggggattt aggggggccag gctggggtgg actttgaccc gtccacaccc 360
cccaagctca tgcccttctc caatcagcta gaaatggtaa gcggggggtcg ctggcaaggg 420
taagtgggtt ggaaacgcag gagaaagcaa aatggggggtg gagagcctgg gggttcaggg 480
ggagtggtga cctgagcatt cagactcctc aaaaccagag cggcaggggt gccggcggaa 540
gcctgtggcc acaccgcaga gatcaaacgt ttcacaaagg aattagagca tcgctcagtc 600
cccctgaagc agaagtcttg ggtcaggcca taagcaaaga gcacagggga tatgtgagct 660
tttggagtcc cactgaaatg tagctggatt gtcaacgtag gatccaggcg tttgccaagc 720
ctcgggaagg agagggagcc ctgttctcat ctggaagcac agatgaagag gatgcaggcc 780
gggagttaac cgcttctctc cccgggagac tcgtggggggt gggtgcggtc ttctcatttg 840
ctgccctggt gtgcattagc tccttgttca agctgcgcct gggggcatct ttgaatacag 900
gctggagttt tgtcatccat ttaccagaga ctagggcaaa ggaggcccag gcactgagaa 960
atccagccct cacaccagct caagccctcg tgcgtcccac gagtggacac tgaaatcaat 1020
tttcctattc agtcctctgc cccttgccct ggggaaatga atccccggct ttgatttact 1080
aggaaagagc ctcttatgtt tgcatagagc attcagcttt tcaaattaag gggcttgtaa 1140
actgtgaagc actctaccag ggaaaattac agttttaaaa aaggatcgtg atttggagtg 1200
agcctcccaa ccctgtaagg aggccaggtc cgtgtccttg ctccaggctt aatggaagag 1260
gcagtgaaca ggaagaaggg atggacctaa agagggacag caagctcggc cagcctgatg 1320
ccctaacttg ccccacacag agacctagag caggagcctc aagatggtat ttatcacctc 1380
gggagggctg gggcaagctg gtggcaggtt gctatttcat agaacaaagt gcccaagtcg 1440
ccattagggt tttccctcc taagagagat gacattcagc tgcttcaaag caacaggcaa 1500
ggtctgctga gacaattgac caagaggggt gctgcgtgcg ctcagagagc ccagactggc 1560
tcaaggtcgg cacgcgtgcc tggggaggga gggtgcaatg cgcgcgcagg ggaggcatga 1620
gtcaccgcgg tccttttcct ctacagggct ccgagaaggg tgcagtgagg cccacagcct 1680
tcaagcctgt gctgccacgg tcaggagcca tcctgcactc ctccccggag agtgccagcc 1740
accagctgca ccccgcccct ccagacaagc ccaaggagca ggagctgaag cctggcctgt 1800
gctctggggc gctgtcagac tccggccgga actccatgtc cagcctgccc acacacagca 1860
```

```
ccagcagcag ctaccagctg gacccgctgg tcacacccgt gggacccaca agccgttttg 1920
ggggctccgc ccacaacatc acccagggca tcgtcctcca ggacagcaac atgatgagcc 1980
tgaaggctct gtccttctcc gacggaggta gcaagctggg ccactcgaac aaggcagaca 2040
agggcccctc gtgtgtccgc tcccccatct ccacggacga gtgcagcatc caggagctgg 2100
aacagaagct gttggagagg gagggcgccc tccagaagct gcagcgcagc tttgaggaga 2160
aggagcttgc ctccagcctg gcctacgagg agcggccgcg gcgctgcagg gacgagctgg 2220
agggcccgga gcccaaaggc ggcaacaagc tcaagcaggc ctcgcagaag agccagcgcg 2280
cgcagcaggt cctgcacctg caggtactgc agcttcagca ggagaagcgg cagctccggc 2340
aggagctcga gagcctcatg aaggagcagg acctgctgga gaccaagctc aggtcctacg 2400
agagggagaa gaccagcttc ggccccgcgc tggaggagac ccagtgggag gtgaggccac 2460
acagggctca tgggtttggg tggtcagcgg tttggcgcca gtaccccct ctccttctgg 2520
tgctggccaa tagcgtgcaa acacagaccg cgcaggcaag cggggctaat gtgctggctt 2580
tatcacccaa agaaggggct ccctgcaaac catgttgggg gatcgactta catctgagct 2640
tcctcctgtc cccaccatca ccctcatggc tcctagattt cagtttccca agtgagccat 2700
taaatcatga agccggaagc cagatgacca aggcccagcc aggctgtggg ctgacctccc 2760
ttccatcagc tcccaggagg ctcagaagaa gaacaagccg tgcctgagtt caggcggggc 2820
caggggccca agagagcaca gaatgcattt gttgctttgg agggagggac tgcacccact 2880
agtaagaggg accctattgg tggcaggttt cagtgatgga agtggccact ccttgctgaa 2940
gtgtaagtgg aacttctatt tggtgagctg agatggaaac ctaggagagg aagtaaagag 3000
tcccccactc acacacttac acactcacac acactcactc acccggtcac acgtggaaat 3060
gaggcatctg tacctgaccg tgctggagaa ccccataacc tctgcatcta ttagtgggaa 3120
agcagctttt ctcaccagcc tggtggtctg gatgactcat ggagttcaag cccatcgttg 3180
aggctcttta catgctcgca cccagcttgg tctgtccacg tgcctgcctc accccagtt 3240
cagagtccaa atctcagtct acacgcaaac ccctggctat gtgcaagtca acaaccagtg 3300
gtttaacttg cccactgctg gcagctgtat caccccatt taacaccaat ggtattggtt 3360
ttggtgtcag cctgatttct gtcatcgatg tttatgccca catcctctga cctcacccct 3420
gcatgcaccc agccctcctc tctcctgtct actggagtaa agactacctc acaaattcac 3480
tgctgtaccc agtgactagt atcatgctgg cttggatgca gagcccaatc cacatctgtc 3540
aaacgaggaa tcatttctct ctcctcttgc tcttctttct ctatttccca cccctatccc 3600
ccatcaaaat ttggccaaga gcaatgatga aaaccgaagc cacaggttag acccatgtgt 3660
ctctggatct tggccatctg gggtcatggg agaccaaggc cagtctggct gaatcttaag 3720
agtgaatgaa gtccagagca tgtggctcta cagaatggat tcttggaact agcctggaag 3780
ccaccttcac atttccttc acagtagaaa tttcccccttg ccctcagtga aacactgcac 3840
agtcctggag aaaatccgac cctacccagg atgcgtgctt gggaccaaga atttcattcc 3900
aaggccaacc ctgtattcat gccacgaagg gagtgacaca gtcatggctg aggcatgggc 3960
ctggctttga acctcagctt gaccacttat gatccaggtg attgtaaata cattagccat 4020
ggtggcaatg gggtatagtg attaaactgt tgggatcaaa tctctactct tatactttat 4080
attttatata tatatatata taatatatat atatattagc cctcaggctg gtcacttcac 4140
cagctgtttg ctatcataac ctctctgtgc ctcagtttca ttgatgtaaa ttgaggacta 4200
ctaatagtac ctacttcatc gggttgtaag gaatagatga gcaaatgtat ggcttggcac 4260
ttaataacac tacaaattat tagtgaaagt atgtttataa taatatactt ctgtgtggct 4320
aggcgtggtg gctcacgcct gcaatcccag cactttggga ggcagaggca ggcagagcac 4380
ttgaggtcag gaattcgaga tcagcctggc caacatgagg aaaccccgtc tctactaaaa 4440
atacaaaaat cagccaggca tggtggcagg tgtctgtaat cccagctact tgggaggctg 4500
aggcaggaga atcagagggg aggcggaggt tgcagtgagc caagatcacg ccactacacc 4560
ccagcctagg tgacaaagcg agacttctca aatattaaca ataataatat actatgtgtc 4620
attatacatg atgattatta ttttatcatt ttactatata gcctagctcg ataacctggg 4680
araaaggtca cagcaatgtt cagcttactt tcagattgga caaaggctgg aatgcctaac 4740
accgggccac cgcatccgga gtggcttggt tattttaggc agctgagctg tcacttccct 4800
gggtaaggac actcacctct tggcactctg tctccacccc accctcggca ggtgtgccag 4860
aagtcaggcg agatctccct cctgaagcag cagctgaagg agtcccagac ggaggtgaac 4920
gccaaggcta gcgagatcct gggtctcaag gcacagctga aggacacgcg gggcaagctg 4980
gagggcctgg agctgaggac ccaggacctg gagggcgccc tgcgcaccaa gggcctggag 5040
ctggaggtct gtgagaatga gctgcagcgc aagaagaacg aggcggagct gctgcgggag 5100
aaggtgaacc tgctggagca ggagctgcag gagctgcggg cccaggccgc cctggcccgc 5160
gacatggggc cgcccacctt ccccgaggac gtccctgccc tgcagcggga gctggagcgg 5220
ctgcgggccg agctgcggga ggagcggcaa ggccatgacc agatgtcctc gggcttccag 5280
```

```
catgagcggc tcgtgtggaa ggaggagaag gagaaggtga ttcagtacca gaaacagctg 5340
cagcagagct acgtggccat gtaccagcgg aaccagcgcc tggagaaggc cctgcagcag 5400
ctggcacgtg gggacagcgc cggggagccc ttggaggttg acctggaagg ggctgacatc 5460
ccctacgagg acatcatagc cactgagatc tgaggggctg cctgggaagg cgagtctggg 5520
gacctggcac tgggaggcag ggctctcccg tgcatccccc ctgctcagca attcagaccc 5580
ctctgagaga cgccactccc tgggacacag acccaggacc cccgagggga gggcaggatg 5640
gcctttcctt ccctctctga tgtcccagtg ctcaccagcc ctgcagccca ccagacgtca 5700
ggccctgact cctctggctt tcccaggaga tgggtccagg ggtctgtctg ctttggttaa 5760
gggctcccta aactttggcc tttgttcgaa atagatatcc tctcccctc ctccagggaa 5820
ggtggccaca gcaagaacag cggctcccct ccgcttctca tcccaacctc tttttcctcc 5880
tggacacatt ggaatgcctt ggaaatagaa agaagccata tatgaccaga agccttggaa 5940
ccagccccat cagaacctga gctattttcc tctggccgca gaggtgtagg ggtggaatga 6000
gccgcgggga agctggcttt gaaacctcag ggctgtccca gccccggcaa gccacaggaa 6060
ggaggggaga gacaggcagc ccagcagtgt ggagaccctg ccacagccag aggagggcag 6120
agggagaatc caagggttga gagccagtgg cgggtgatgg ccagcccctg gggcccagcc 6180
cctgtttact ggttcttgca aatgggagct gagcagcctc tggacagcca gtgacctttg 6240
acctcggtga ccactcttct ttaagccata gaccctgagg ccctgggctg ggtgctggga 6300
agggagggtt gaaaccaccg tgaaccagag ggtgtggctt tccagkcacc ctcagggagc 6360
ctccccatct gtccagctgg ggccagaggc tgggagtccc tacctgcttc acgttggccg 6420
gcggctactc tggaatgttt ttccctcccc agaatcaagc ttttgcttga tccagaagag 6480
cccatatcac taagatggca tatatgtgat ctgggcattt tcctcctctg cctacagcca 6540
ggtttagcgg caaacctttc ccccttagca ccttcagggc tgagttctgg gtttctagag 6600
gtcaggacgg ctcctcagag cgccaggaag ccagagcccc aagcaggacg aaaaagaggc 6660
atacacacag cagtgtgaat agcctggcca ccagccatcc tccctccacc tcaagacccc 6720
catttgtccs agactaaagg atccagagag cagctccctt tctcaggagc ttgggcagtg 6780
ccccagggag tccagggttt ctctgcagat gtgcggagcg ggaggcggtg gtagagagag 6840
ataaaaggtg gagtttctct gttgtttggt tcagggattt tattttaat tttatgagac 6900
agggtcttgc tctgtccccc aggctggagt gcagtggcat gatcatagct cactgcagcc 6960
tcatactcct gggctcaagc aatcctcctg cctcagcctt ccaactagct gggactacag 7020
gtgcgcgcca ccgtgcctgg ctaactttc attttttttg tagggacggg gtctcgtttt 7080
gttgccaaag ctggtctcaa acttgtggcc tcaagcaatc cacctgcctt ggcctcccaa 7140
agtgctgaga ttgcagatgt gagccaccgt gcctggccag attttctttt tattcttctt 7200
tctttttctt ttttgctttc ttgtctttc agaagcaagc cagacctagc aggctgttcc 7260
atgttctatt tttgactgta gccacagctg ctgttctcag gacagcatcc cttcccacat 7320
gcctgcgcct gctgcctgct gagatgagga ggggagcgtc tgggaacttg cgagtccaag 7380
gccagtcccc atttctgcct cgctcaccgc tggcccttag agaccccgag gtaggggtgg 7440
ggagatgctt ctctccttgc ccccgccct catgggtcct agcccttccc tgagtgcggg 7500
ctgaggccag agtcaccttt tctgtggctg ctctacctt cctgtccctg aggttaaacg 7560
gtgcccatcc tgccatcctc aaacgacaga ggagctttc tggaatttca aaccattgct 7620
cttagtccca agctaggctt aaacctggaa tctacaagcc aaaagtccct ccctgcctga 7680
gggcagtacc ctccattggg cacagtccag acccaagtca aagatgcccc attccttgcg 7740
cctcagccct cagttccttc atttccacca ggccgtgcct tgtttgagtt tttcctccca 7800
gtgagactgc cccacggaga cagaggaaag ggctggctcc cctcccag gctggagacc 7860
cccccaact ccaggaaaga gcagtcagag tccagtgctc tgcctcagac gttgcctgag 7920
aagaagtggc tgccacaccc aggggaaggc cctgaggcgg aggctgtgct ccgccatggt 7980
gtcccggtac cttccataca cagaggagtg cagccttctc catatctcca tggccctgtc 8040
ccaggccggc ccagatgtgt ccccccccagg ccttgtccta cgtccaaggt ggcagatgtc 8100
ttccctgggc tgccaccagc ccccgcccca gagtggccca ccgtggcact agaatgcaag 8160
tatcctgcga ccttgcaacc tcaccttcct gtgggtgttc tttcctgccc tgtccaaaag 8220
cgccctcact attcttggac catgccagat tctgcctctc tggaaagagg ctctggacag 8280
cagaagcctc caagcacaga gcctggcccc aggccccaga cagggtgggc ttcctgccct 8340
tccctctggg cacgcctgct ggccgaccca ctgacccact cggatggacc aacctgctct 8400
gtccccaaag gacgcctgca ggagagagca gcactccgca tcacctcacc aaggatcgga 8460
ctctgccct ggacctggga acgactggac tgtcacgggg ttccctccta gctctcccag 8520
tgaactcctg ccaggcacac acagccccta tagcactgag ctcacatggg actgggatat 8580
gggggcatct cttccccaga gaggcactca gtgagcctcc tgtgcctggc cccagtctgg 8640
gccatctctt aggtgagaca gttgcccgaa actaagccag gcctggctgg aggagcagca 8700
```

```
gcttggggag agggatttcc ctgcagacct caagccatca tgcggtgggt gctgccatga 8760
cagaggctgc acccctgggc cagcggggct gctcacccac ctcttgtgca aggtggcctt 8820
tgtgctgcgc ctgcaggcag agctggagcc cccagcagag gcaggctggg acggaccagc 8880
atctggaaga tgtacatagt tatttttctc tttgtggttt cttgtttggt ttggtttgct 8940
tttgacagct tcattttatt tttgacgtca cttttttggcc atgtaaacta tttgtggcaa 9000
ttttatgttt ttatttatga ataaagaatg ccatttctca cgccctct           9048



<210> 2
<211> 5492
<212> DNA
<213> Homo sapiens


<400> 2
tgagggcttt gctatgacct cagtcccctc acggagccac gactgcccct tgctgccaca 60
gcctttccaa gaccctgccc ggccctgccc catcctcagc cccgagtcac catgggcagc 120
gtcagtagcc tcatctccgg ccacagcttc cacagcaagc actgccgggc ttcgcagtac 180
aagctgcgca agtcctccca cctcaagaag ctcaaccggt attccgacgg gctgctgagg 240
tttggcttct cccaggactc cggtcacggc aagtccagct ccaaaatggg caagagcgaa 300
gacttcttct acatcaaggt cagccagaaa gcccggggct cccatcaccc agattacacg 360
gcactgtcca gcggggattt aggggccag gctggggtgg actttgaccc gtccacaccc 420
cccaagctca tgcccttctc caatcagcta gaaatgggct ccgagaaggg tgcagtgagg 480
cccacagcct tcaagcctgt gctgccacgg tcaggagcca tcctgcactc ctccccggag 540
agtgccagcc accagctgca ccccgcccct ccagacaagc ccaaggagca ggagctgaag 600
cctggcctgt gctctggggc gctgtcagac tccggccgga actccatgtc cagcctgccc 660
acacacagca ccagcagcag ctaccagctg gacccgctgg tcacacccgt gggacccaca 720
agccgttttg ggggctccgc ccacaacatc acccagggca tcgtcctcca ggacagcaac 780
atgatgagcc tgaaggctct gtccttctcc gacggaggta gcaagctggg ccactcgaac 840
aaggcagaca agggcccctc gtgtgtccgc tcccccatct ccacggacga gtgcagcatc 900
caggagctgg agcagaagct gttggagagg gagggcgccc tccagaagct gcagcgcagc 960
tttgaggaga aggagcttgc ctccagcctg gcctacgagg agcggccgcg gcgctgcagg 1020
gacgagctgg agggcccgga gcccaaaggc ggcaacaagc tcaagcaggc ctcgcagaag 1080
agccagcgcg cgcagcaggt cctgcacctg caggtactgc agcttcagca ggagaagcgg 1140
cagctccggc aggagctcga gagcctcatg aaggagcagg acctgctgga gaccaagctc 1200
aggtcctacg agagggagaa gaccagcttc ggccccgcgc tggaggagac ccagtgggag 1260
gtgtgccaga agtcaggcga gatctccctc ctgaagcagc agctgaagga gtcccagacg 1320
gaggtgaacg ccaaggctag cgagatcctg ggtctcaagg cacagctgaa ggacacgcgg 1380
ggcaagctgg agggcctgga gctgaggacc caggacctgg agggcgccct gcgcaccaag 1440
ggcctggagc tggaggtctg tgagaatgag ctgcagcgca agaagaacga ggcggagctg 1500
ctgcgggaga aggtgaacct gctggagcag gagctgcagg agctgcgggc ccaggccgcc 1560
ctggcccgcg acatgggggcc gcccaccttc cccgaggacg tccctgccct gcagcgggag 1620
ctggagcggc tgcgggccga gctgcgggag gagcggcaag gccatgacca gatgtcctcg 1680
ggcttccagc atgagcggct cgtgtggaag gaggagaagg agaaggtgat tcagtaccag 1740
aaacagctgc agcagagcta cgtggccatg taccagcgga ccagcgcct ggagaaggcc 1800
ctgcagcagc tggcacgtgg ggacagcgcc ggggagccct tggaggttga cctggaaggg 1860
gctgacatcc cctacgagga catcatagcc actgagatct gagggggctgc ctgggaaggc 1920
gagtctgggg acctggcact gggaggcagg gctctcccgt gcatcccccc tgctcagcaa 1980
ttcagacccc tctgagagac gccactccct gggacacaga cccaggaccc ccgaggggag 2040
ggcaggatgg cctttccttc cctctctgat gtcccagtgc tcaccagccc tgcagcccac 2100
cagacgtcag gccctgactc ctctggcttt cccaggagat gggtccaggg gtctgtctgc 2160
tttggttaag ggctccctaa actttggcct ttgttcgaaa tagatatcct ctccccctcc 2220
tccagggaag gtggccacag caagaacagc ggctcccctc cgcttctcat cccaacctct 2280
ttttcctcct ggacacattg gaatgccttg gaaatagaaa gaagccatat atgaccagaa 2340
gccttggaac cagccccatc agaacctgag ctattttcct ctggccgcag aggtgtaggg 2400
gtggaatgag ccgcggggaa gctggctttg aaacctcagg gctgtcccag ccccggcaag 2460
ccacaggaag gaggggagag acaggcagcc cagcagtgtg gagaccctgc cacagccaga 2520
ggagggcaga gggagaatcc aagggttgag agccagtggc gggtgatggc cagcccctgg 2580
```

```
ggcccagccc ctgtttactg gttcttgcaa atgggagctg agcagcctct ggacagccag 2640
tgacctttga cctcggtgac cactcttctt taagccatag accctgaggc cctgggctgg 2700
gtgctgggaa gggagggttg aaaccaccgt gaaccagagg gtgtggcttt ccaggcaccc 2760
tcagggagcc tccccatctg tccagctggg gccagaggct gggagtccct acctgcttca 2820
cgttggccgg cggctactct ggaatgtttt tccctcccca gaatcaagct tttgcttgat 2880
ccagaagagc ccatatcact aagatggcat atatgtgatc tgggcatttt cctcctctgc 2940
ctacagccag gtttagcggc aaacctttcc cccttagcac cttcagggct gagttctggg 3000
tttctagagg tcaggacggc tcctcagagc gccaggaagc cagagcccca agcaggacga 3060
aaaagaggca tacacacagc agtgtgaata gcctggccac cagccatcct ccctccacct 3120
caagaccccc atttgtccca gactaaagga tccagagagc agctcccttt ctcaggagct 3180
tgggcagtgc cccagggagt ccagggtttc tctgcagatg tgcggagcgg gaggcggtgg 3240
tagagagaga taaaaggtgg agtttctctg ttgtttggtt cagggatttt atttttaatt 3300
ttatgagaca gggtcttgct ctgtccccca ggctggagtg cagtggcatg atcatagctc 3360

actgcagcct catactcctg ggctcaagca atcctcctgc ctcagccttc caactagctg 3420
ggactacagg tgcgcgccac cgtgcctggc taactttttca ttttttttgt agggacgggg 3480
tctcgttttg ttgccaaagc tggtctcaaa cttgtggcct caagcaatcc acctgccttg 3540
gcctcccaaa gtgctgagat tgcagatgtg agccaccgtg cctggccaga ttttctcttt 3600
attcttcttt ctttttcttt tttgctttct tgtcttttca gaagcaagcc agacctagca 3660
ggctgttcca tgttctattt ttgactgtag ccacagctgc tgttctcagg acagcatccc 3720
ttcccacatg cctgcgcctg ctgcctgctg agatgaggag gggagcgtct gggaacttgc 3780
gagtccaagg ccagtcccca tttctgcctc gctcaccgct ggcccttaga gaccccgagg 3840
taggggtggg gagatgcttc tctccttgcc ccccgccctc atgggtccta gcccttccct 3900
gagtgcgggc tgaggccaga gtcacctttt ctgtggctgg ctctaccttc ctgtccctga 3960
ggttaaacgg tgcccatcct gccatcctca aacgacagag gagcttttct ggaatttcaa 4020
accattgctc ttagtcccaa gctaggctta aacctggaat ctacaagcca aaagtccctc 4080
cctgcctgag ggcagtaccc tccattgggc acagtccaga cccaagtcaa agatgcccca 4140
ttccttgcgc ctcagccctc agttccttca tttccaccag gccgtgcctt gtttgagttt 4200
ttcctcccag tgagactgcc ccacggagac agaggaaagg gctggctccc cctccccagg 4260
ctggagaccc cccccaactc caggaaagag cagtcagagt ccagtgctct gcctcagacg 4320
ttgcctgaga agaagtggct gccacaccca ggggaaggcc ctgaggcgga ggctgtgctc 4380
cgccatggtg tcccggtacc ttccatacac agaggagtgc agccttctcc atatctccat 4440
ggccctgtcc caggccggcc cagatgtgtc ccccccaggc cttgtcctac gtccaaggtg 4500
gcagatgtct tccctgggct gccaccagcc cccgccccag agtggcccac cgtggcacta 4560
gaatgcaagt atcctgcgac cttgcaacct caccttcctg tgggtgttct ttcctgccct 4620
gtccaaaagc gccctcacta ttcttggacc atgccagatt ctgcctctct ggaaagaggc 4680
tctggacagc agaagcctcc aagcacagag cctggcccca ggccccagac agggtgggct 4740
tcctgccctt ccctctgggc acgcctgctg ccgacccac tgacccactc ggatggacca 4800
acctgctctg tccccaaagg acgcctgcag gagagagcag cactccgcat cacctcacca 4860
aggatcggac tctgcccctg gacctgggaa cgactggact gtcacggggt tccctcctag 4920
ctctcccagt gaactcctgc caggcacaca cagcccctat agcactgagc tcacatggga 4980
ctgggatatg ggggcatctc ttccccagag aggcactcag tgagcctcct gtgcctggcc 5040
ccagtctggg ccatctctta ggtgagacag ttgcccgaaa ctaagccagg cctggctgga 5100
ggagcagcag cttggggaga gggatttccc tgcagacctc aagccatcat gcggtgggtg 5160
ctgccatgac agaggctgca cccctgggcc agcggggctg ctcacccacc tcttgtgcaa 5220
ggtggccttt gtgctgcgcc tgcaggcaga gctggagccc ccagcagagg caggctggga 5280
cggaccagca tctggaagat gtacatagtt attttctct ttgtggtttc ttgtttggtt 5340
tggtttgctt ttgacagctt cattttattt ttgacgtcac tttttggcca tgtaaactat 5400
ttgtggcaat tttatgtttt tatttatgaa taaagaatgc catttctcac gccctctaaa 5460
aaaaaaaaaa aaaaaaaaaa aaaaaaaaa aa                                  5492
```

<210> 3
<211> 1791
<212> DNA
<213> Homo sapiens

```
<400> 3
atgggcagcg tcagtagcct catctccggc cacagcttcc acagcaagca ctgccgggct 60
tcgcagtaca agctgcgcaa gtcctcccac ctcaagaagc tcaaccggta ttccgacggg 120
ctgctgaggt ttggcttctc ccaggactcc ggtcacggca agtccagctc caaaatgggc 180
aagagcgaag acttcttcta catcaaggtc agccagaaag cccggggctc ccatcaccca 240
gattacacgg cactgtccag cggggattta gggggccagg ctggggtgga ctttgacccg 300
tccacacccc ccaagctcat gcccttctcc aatcagctag aaatgggctc cgagaagggt 360
gcagtgaggc ccacagcctt caagcctgtg ctgccacggt caggagccat cctgcactcc 420
tccccggaga gtgccagcca ccagctgcac cccgcccctc cagacaagcc caaggagcag 480
gagctgaagc ctggcctgtg ctctggggcg ctgtcagact ccggccggaa ctccatgtcc 540
agcctgccca cacacagcac cagcagcagc taccagctgg acccgctggt cacacccgtg 600
ggacccacaa gccgtttttg gggctccgcc cacaacatca cccagggcat cgtcctccag 660
gacagcaaca tgatgagcct gaaggctctg tccttctccg acggaggtag caagctgggc 720
cactcgaaca aggcagacaa gggcccctcg tgtgtccgct cccccatctc cacggacgag 780
tgcagcatcc aggagctgga gcagaagctg ttggagaggg agggcgccct ccagaagctg 840
cagcgcagct ttgaggagaa ggagcttgcc tccagcctgg cctacgagga gcggccgcgg 900
cgctgcaggg acgagctgga gggcccggag cccaaaggcg gcaacaagct caagcaggcc 960
tcgcagaaga gccagcgcgc gcagcaggtc ctgcacctgc aggtactgca gcttcagcag 1020
gagaagcggc agctccggca ggagctcgag agcctcatga aggagcagga cctgctggag 1080
accaagctca ggtcctacga gagggagaag accagcttcg gccccgcgct ggaggagacc 1140
cagtgggagg tgtgccagaa gtcaggcgag atctccctcc tgaagcagca gctgaaggag 1200
tcccagacgg aggtgaacgc caaggctagc gagatcctgg gtctcaaggc acagctgaag 1260
gacacgcggg gcaagctgga gggcctggag ctgaggaccc aggacctgga gggcgccctg 1320
cgcaccaagg gcctggagct ggaggtctgt gagaatgagc tgcagcgcaa gaagaacgag 1380
gcggagctgc tgcgggagaa ggtgaacctg ctggagcagg agctgcagga gctgcgggcc 1440
caggccgccc tggcccgcga catggggccg cccaccttcc ccgaggacgt ccctgccctg 1500
cagcgggagc tggagcggct gcgggccgag ctgcgggagg agcggcaagg ccatgaccag 1560
atgtcctcgg gcttccagca tgagcggctc gtgtggaagg aggagaagga gaaggtgatt 1620
cagtaccaga aacagctgca gcagagctac gtggccatgt accagcggaa ccagcgcctg 1680
gagaaggccc tgcagcagct ggcacgtggg gacagcgccg gggagccctt ggaggttgac 1740
ctggaagggg ctgacatccc ctacgaggac atcatagcca ctgagatctg a          1791
```

```
<210> 4
<211> 596
<212> PRT
<213> Homo sapiens
```

```
<400> 4
Met Gly Ser Val Ser Ser Leu Ile Ser Gly His Ser Phe His Ser Lys
 1               5                  10                  15

His Cys Arg Ala Ser Gln Tyr Lys Leu Arg Lys Ser Ser His Leu Lys
            20              25                  30

Lys Leu Asn Arg Tyr Ser Asp Gly Leu Leu Arg Phe Gly Phe Ser Gln
        35              40                  45

Asp Ser Gly His Gly Lys Ser Ser Ser Lys Met Gly Lys Ser Glu Asp
    50              55                  60

Phe Phe Tyr Ile Lys Val Ser Gln Lys Ala Arg Gly Ser His His Pro
65              70                  75                  80

Asp Tyr Thr Ala Leu Ser Ser Gly Asp Leu Gly Gly Gln Ala Gly Val
            85                  90                  95
```

```
Asp Phe Asp Pro Ser Thr Pro Pro Lys Leu Met Pro Phe Ser Asn Gln
            100             105             110

Leu Glu Met Gly Ser Glu Lys Gly Ala Val Arg Pro Thr Ala Phe Lys
            115             120             125

Pro Val Leu Pro Arg Ser Gly Ala Ile Leu His Ser Ser Pro Glu Ser
    130             135             140

Ala Ser His Gln Leu His Pro Ala Pro Pro Asp Lys Pro Lys Glu Gln
145             150             155             160

Glu Leu Lys Pro Gly Leu Cys Ser Gly Ala Leu Ser Asp Ser Gly Arg
            165             170             175

Asn Ser Met Ser Ser Leu Pro Thr His Ser Thr Ser Ser Ser Tyr Gln
            180             185             190

Leu Asp Pro Leu Val Thr Pro Val Gly Pro Thr Ser Arg Phe Gly Gly
        195             200             205

Ser Ala His Asn Ile Thr Gln Gly Ile Val Leu Gln Asp Ser Asn Met
    210             215             220

Met Ser Leu Lys Ala Leu Ser Phe Ser Asp Gly Gly Ser Lys Leu Gly
225             230             235             240

His Ser Asn Lys Ala Asp Lys Gly Pro Ser Cys Val Arg Ser Pro Ile
            245             250             255

Ser Thr Asp Glu Cys Ser Ile Gln Glu Leu Glu Gln Lys Leu Leu Glu
            260             265             270

Arg Glu Gly Ala Leu Gln Lys Leu Gln Arg Ser Phe Glu Glu Lys Glu
            275             280             285

Leu Ala Ser Ser Leu Ala Tyr Glu Glu Arg Pro Arg Arg Cys Arg Asp
    290             295             300

Glu Leu Glu Gly Pro Glu Pro Lys Gly Gly Asn Lys Leu Lys Gln Ala
305             310             315             320

Ser Gln Lys Ser Gln Arg Ala Gln Gln Val Leu His Leu Gln Val Leu
            325             330             335

Gln Leu Gln Gln Glu Lys Arg Gln Leu Arg Gln Glu Leu Glu Ser Leu
            340             345             350

Met Lys Glu Gln Asp Leu Leu Glu Thr Lys Leu Arg Ser Tyr Glu Arg
            355             360             365

Glu Lys Thr Ser Phe Gly Pro Ala Leu Glu Glu Thr Gln Trp Glu Val
    370             375             380

Cys Gln Lys Ser Gly Glu Ile Ser Leu Leu Lys Gln Gln Leu Lys Glu
385             390             395             400
```

```
Ser Gln Thr Glu Val Asn Ala Lys Ala Ser Glu Ile Leu Gly Leu Lys
                405             410             415

Ala Gln Leu Lys Asp Thr Arg Gly Lys Leu Glu Gly Leu Glu Leu Arg
                420             425             430

Thr Gln Asp Leu Glu Gly Ala Leu Arg Thr Lys Gly Leu Glu Leu Glu
                435             440             445

Val Cys Glu Asn Glu Leu Gln Arg Lys Lys Asn Glu Ala Glu Leu Leu
        450             455             460

Arg Glu Lys Val Asn Leu Leu Glu Gln Glu Leu Gln Glu Leu Arg Ala
465                 470             475                 480

Gln Ala Ala Leu Ala Arg Asp Met Gly Pro Pro Thr Phe Pro Glu Asp
                485             490             495

Val Pro Ala Leu Gln Arg Glu Leu Glu Arg Leu Arg Ala Glu Leu Arg
                500             505             510

Glu Glu Arg Gln Gly His Asp Gln Met Ser Ser Gly Phe Gln His Glu
                515             520             525

Arg Leu Val Trp Lys Glu Glu Lys Glu Lys Val Ile Gln Tyr Gln Lys
    530             535             540

Gln Leu Gln Gln Ser Tyr Val Ala Met Tyr Gln Arg Asn Gln Arg Leu
545             550             555                 560

Glu Lys Ala Leu Gln Gln Leu Ala Arg Gly Asp Ser Ala Gly Glu Pro
                565             570             575

Leu Glu Val Asp Leu Glu Gly Ala Asp Ile Pro Tyr Glu Asp Ile Ile
                580             585             590

Ala Thr Glu Ile
            595


<210> 5
<211> 76
<212> PRT
<213> Homo sapiens

<400> 5
Met Gly Ser Val Ser Ser Leu Ile Ser Gly His Ser Phe His Ser Lys
1               5               10              15

His Cys Arg Ala Ser Gln Tyr Lys Leu Arg Lys Ser Ser His Leu Lys
                20              25              30

Lys Leu Asn Arg Tyr Ser Asp Gly Leu Leu Arg Phe Gly Phe Ser Gln
            35              40              45

Asp Ser Gly His Gly Lys Ala Met Thr Arg Cys Pro Arg Ala Ser Ser
    50              55              60
```

```
Met Ser Gly Ser Cys Gly Arg Arg Arg Arg Arg Arg
65              70              75
```

<210> 6
<211> 69
<212> PRT
<213> Homo sapiens

<400> 6
```
Arg Cys Arg Asp Glu Leu Glu Gly Pro Glu Pro Lys Gly Gly Asn Lys
 1           5               10                  15

Leu Lys Gln Ala Ser Gln Lys Ser Gln Arg Ala Gln Gln Val Leu His
            20              25              30

Leu Gln Val Leu Gln Leu Gln Gln Glu Lys Arg Gln Leu Arg Gln Glu
         35              40              45

Leu Glu Ser Leu Met Lys Glu Gln Asp Leu Leu Glu Thr Lys Leu Arg
     50              55                  60

Ser Tyr Glu Arg Glu
 65
```

<210> 7
<211> 68
<212> PRT
<213> Homo sapiens

<400> 7
```
Ile Ser Arg Arg Arg Arg Glu Lys Glu Asn Pro Lys Glu Arg Asn Lys
 1           5               10                  15

Met Ala Ala Ala Lys Cys Arg Asn Arg Arg Arg Glu Leu Thr Asp Thr
            20              25              30

Leu Gln Ala Glu Thr Asp Gln Leu Glu Asp Glu Lys Ser Ala Leu Gln
         35          ,   40              45

Thr Glu Ile Ala Asn Leu Leu Lys Glu Lys Glu Lys Leu Glu Phe Ile
     50              55              60

Leu Ala Ala His
 65
```

<210> 8
<211> 69
<212> PRT
<213> Homo sapiens

<400> 8
```
Ala Trp Glu Arg Glu Leu Ala Glu Leu Arg Gln Gly Cys Ser Gly Lys
```

```
        1               5               10              15

    Leu Gln Gln Val Ala Arg Arg Ala Gln Arg Ala Gln Gln Gly Leu Gln
                20                  25              30

    Leu Gln Val Leu Arg Leu Gln Gln Asp Lys Lys Gln Leu Gln Glu Glu
                35                  40              45

    Ala Ala Arg Leu Met Arg Gln Arg Glu Glu Leu Glu Asp Lys Val Ala
        50                  55              60

    Ala Cys Gln Lys Glu
     65


<210> 9
<211> 404
<212> DNA
<213> Homo sapiens

<400> 9
atgggcagcg tcagtagcct catctccggc cacagcttcc acagcaagca ctgccgggct 60
tcgcagtaca agctgcgcaa gtcctcccac ctcaagaagc tcaaccggta ttccgacggg 120
ctgctgaggt ttggcttctc ccaggactcc ggtcacggca aggccatgac cagatgtcct 180
cgggcttcca gcatgagcgg ctcgtgtgga aggaggagaa ggagaaggtg attcagtacc 240
agaaacagct gcagcagagc tacgtggcca tgtaccagcg gaaccagcgc ctggagaagg 300
ccctgcagca gctggcacgt ggggacagcg ccggggagcc cttggaggtt gacctggaag 360
gggctgacat cccctacgag gacatcatag ccactgagat ctga            404


<210> 10
<211> 633
<212> DNA
<213> Homo sapiens

<400> 10
atgggcagcg tcagtagcct catctccggc cacagcttcc acagcaagca ctgccgggct 60
tcgcagtaca agctgcgcaa gtcctcccac ctcaagaagc tcaaccggta ttccgacggg 120
ctgctgaggt ttggcttctc ccaggactcc ggtcacggca agtccagctc caaaatgggc 180
aagagcgaag acttcttcta catcaaggtc agccagaaag cccggggctc ccatcaccca 240
gattacacgg cactgtccag cggggattta ggggggccagg ctggggtgga ctttgacccg 300
tccacacccc ccaagctcat gcccttctcc aatcagctag aaatgggctc cgagaagggt 360
gcagtgaggc ccacagcctt caagcctgtg ctgccacggt caggagccat cctgcactcc 420
tccccggaga gtgccagcca ccagctgcac cccgcccctc cagacaagcc caaggagcag 480
gagctgaagc ctggcctgtg ctctgggcg ctgtcagact ccggccggaa ctccatgtcc 540
agcctgccca cacacagcgc cggggagccc ttggaggttg acctggaagg ggctgacatc 600
ccctacgagg acatcatagc cactgagatc tga                          633


<210> 11
<211> 1614
<212> DNA
<213> Homo sapiens

<400> 11
atgggcagcg tcagtagcct catctccggc cacagcttcc acagcaagca ctgccgggct 60
tcgcagtaca agctgcgcaa gtcctcccac ctcaagaagc tcaaccggta ttccgacggg 120
```

```
ctgctgaggt ttggcttctc ccaggactcc ggtcacggca agtccagctc caaaatgggc 180
aagagcgaag acttcttcta catcaaggtc agccagaaag cccggggctc ccatcaccca 240
gattacacgg cactgtccag cggggattta gggggccagg ctggggtgga ctttgacccg 300
tccacacccc ccaagctcat gcccttctcc aatcagctag aaatgggctc cgagaagggt 360
gcagtgaggc ccacagcctt caagcctgtg ctgccacggt caggagccat cctgcactcc 420
tccccggaga gtgccagcca ccagctgcac cccgcccctc cagacaagcc caaggagcag 480
gagctgaagc ctggcctgtg ctctggggcg ctgtcagact ccggccggaa ctccatgtcc 540
agcctgccca cacacagcac cagcagcagc taccagctgg acccgctggt cacacccgtg 600
ggacccacaa gccgtttggg gggctccgcc cacaacatca cccagggcat cgtcctccag 660
gacagcaaca tgatgagcct gaaggctctg tccttctccg acggaggtag caagctgggc 720
cactcgaaca aggcagacaa gggcccctcg tgtgtccgct cccccatctc cacggacgag 780
tgcagcatcc aggagctgga gcagaagctg ttggagaggg agggcgccct ccagaagctg 840
cagcgcagct ttgaggagaa ggagcttgcc tccagcctgg cctacgagga gcggccgcgg 900
cgctgcaggg acgagctgga gggcccggag cccaaaggcg gcaacaagct caagcaggcc 960
tcgcagaaga gccagcgcgc gcagcaggtc ctgcacctgc aggtactgca gcttcagcag 1020
gagaagcggc agctccggca ggagctcgag agcctcatga aggagcagga cctgctggag 1080
accaagctca ggtcctacga gagggagaag accagcttcg gccccgcgct ggaggagacc 1140
cagtgggagg tgtgccagaa gtcaggcgag atctccctcc tgaagcagca gctgaaggag 1200
tcccagacgg aggtgaacgc caaggctagc gagatcctgg gtctcaaggc acagctgaag 1260
gacacgcggg gcaagctgga gggcctggag ctgaggaccc aggacctgga gggcgccctg 1320
cgcaccaagg gcctggagct ggaggtctgt gagaatgagc tgcagcgcaa gaagaacgag 1380
gcggagctgc tgcgggagaa gcatgagcgg ctcgtgtgga aggaggagaa ggagaaggtg 1440
attcagtacc agaaacagct gcagcagagc tacgtggcca tgtaccagcg gaaccagcgc 1500
ctggagaagg ccctgcagca gctggcacgt ggggacagcg ccggggagcc cttggaggtt 1560
gacctggaag gggctgacat cccctacgag gacatcatag ccactgagat ctga        1614
```

```
<210> 12
<211> 1512
<212> DNA
<213> Homo sapiens

<400> 12
atgggcagcg tcagtagcct catctccggc cacagcttcc acagcaagca ctgccgggct 60
tcgcagtaca agctgcgcaa gtcctcccac ctcaagaagc tcaaccggta ttccgacggg 120
ctgctgaggt ttggcttctc ccaggactcc ggtcacggca agtccagctc caaaatgggc 180
aagagcgaag acttcttcta catcaaggtc agccagaaag cccggggctc ccatcaccca 240
gattacacgg cactgtccag cggggattta gggggccagg ctggggtgga ctttgacccg 300
tccacacccc ccaagctcat gcccttctcc aatcagctag aaatgggctc cgagaagggt 360
gcagtgaggc ccacagcctt caagcctgtg ctgccacggt caggagccat cctgcactcc 420
tccccggaga gtgccagcca ccagctgcac cccgcccctc cagacaagcc caaggagcag 480
gagctgaagc ctggcctgtg ctctggggcg ctgtcagact ccggccggaa ctccatgtcc 540
agcctgccca cacacagcac cagcagcagc taccagctgg acccgctggt cacacccgtg 600
ggacccacaa gccgtttggg gggctccgcc cacaacatca cccagggcat cgtcctccag 660
gacagcaaca tgatgagcct gaaggctctg tccttctccg acggaggtag caagctgggc 720
cactcgaaca aggcagacaa gggcccctcg tgtgtccgct cccccatctc cacggacgag 780
tgcagcatcc aggagctgga gcagaagctg ttggagaggg agggcgccct ccagaagctg 840
cagcgcagct ttgaggagaa ggagcttgcc tccagcctgg cctacgagga gcggccgcgg 900
cgctgcaggg acgagctgga gggcccggag cccaaaggcg gcaacaagct caagcaggcc 960
tcgcagaaga gccagcgcgc gcagcaggtc ctgcacctgc aggtactgca gcttcagcag 1020
gagaagcggc agctccggca ggagctcgag agcctcatga aggagcagga cctgctggag 1080
accaagctca ggtcctacga gagggagaag accagcttcg gccccgcgct ggaggagacc 1140
cagtgggagg tgtgccagaa gtcaggcgag atctccctcc tgaagcagca gctgaaggag 1200
tcccagacgg aggtgaacgc caaggctagc gagatcctgg gtctcaaggc acagctgaag 1260
gacacgcggg gcaagctgga gggcctggag ctgaggaccc aggacctgga gggcgccctg 1320
cgcaccaagg gcctggagct ggaggtctgt gagaatgagc tgcagcagag ctacgtggcc 1380
atgtaccagc ggaaccagcg cctggagaag gccctgcagc agctggcacg tggggacagc 1440
```

```
gccgggggagc ccttggaggt tgacctggaa ggggctgaca tccccctacga ggacatcata 1500
gccactgaga tc                                                       1512
```

<210> 13
<211> 1692
<212> DNA
<213> Homo sapiens

<400> 13

```
atgggcagcg tcagtagcct catctccggc cacagcttcc acagcaagca ctgccgggct 60
tcgcagtaca agctgcgcaa gtcctcccac ctcaagaagc tcaaccggta ttccgacggg 120
ctgctgaggt ttggcttctc ccaggactcc ggtcacggca agtccagctc caaaatgggc 180
aagagcgaag acttcttcta catcaaggtc agccagaaag cccggggctc ccatcaccca 240
gattacacgg cactgtccag cggggattta ggggggccagg ctggggtgga ctttgacccg 300
tccacacccc ccaagctcat gcccttctcc aatcagctag aaatgggctc cgagaagggt 360
gcagtgaggc ccacagcctt caagcctgtg ctgccacggt caggagccat cctgcactcc 420
tcccccggaga gtgccagcca ccagctgcac cccgcccctc cagacaagcc caaggagcag 480
gagctgaagc ctggcctgtg ctctggggcg ctgtcagact ccggccggaa ctccatgtcc 540
agcctgccca cacacagcac cagcagcagc taccagctgg acccgctggt cacacccgtg 600
ggacccacaa gccgtttttgg gggctccgcc cacaacatca cccagggcat cgtcctccag 660
gacagcaaca tgatgagcct gaaggctctg tccttctccg acggaggtag caagctgggc 720
cactcgaaca aggcagacaa gggcccctcg tgtgtccgct cccccatctc cacggacgag 780

tgcagcatcc aggagctgga gcagaagctg ttggagaggg agggcgccct ccagaagctg 840
cagcgcagct ttgaggagaa ggagcttgcc tccagcctgg cctacgagga gcggccgcgg 900
cgctgcaggg acgagctgga gggcccggag cccaaaggcg gcaacaagct caagcaggcc 960
tcgcagaaga gccagcgcgc gcagcaggtc ctgcacctgc aggtactgca gcttcagcag 1020
gagaagcggc agctccggca ggagctcgag agcctcatga aggagcagga cctgctggag 1080
accaagctca ggtcctacga gagggagaag accagcttcg gccccgcgct ggaggagacc 1140
cagtgggagg tgtgccagaa gtcaggcgag atctccctcc tgaagcagca gctgaaggag 1200
tcccagacgg aggtgaacgc caaggctagc gagatcctgg gtctcaaggc acagctgaag 1260
gacacgcggg gcaagctgga gggcctggag ctgaggaccc aggacctgga gggcgccctg 1320
cgcaccaagg gcctggagct ggaggtctgt gagaatgagc tgcagcgcaa gaagaacgag 1380
gcggagctgc tgcgggagaa ggtgaacctg ctggagcggc tgcgggccga gctgcgggag 1440
gagcggcaag gccatgacca gatgtcctcg ggcttccagc atgagcggct cgtgtggaag 1500
gaggagaagg agaaggtgat tcagtaccag aaacagctgc agcagagcta cgtggccatg 1560
taccagcgga accagcgcct ggagaaggcc ctgcagcagc tggcacgtgg ggacagcgcc 1620
ggggagccct tggaggttga cctggaaggg gctgacatcc cctacgagga catcatagcc 1680
actgagatct ga                                                      1692
```

<210> 14
<211> 1722
<212> DNA
<213> Homo sapiens

<400> 14

```
atgggcagcg tcagtagcct catctccggc cacagcttcc acagcaagca ctgccgggct 60
tcgcagtaca agctgcgcaa gtcctcccac ctcaagaagc tcaaccggta ttccgacggg 120
ctgctgaggt ttggcttctc ccaggactcc ggtcacggca agtccagctc caaaatgggc 180
aagagcgaag acttcttcta catcaaggtc agccagaaag cccggggctc ccatcaccca 240
gattacacgg cactgtccag cggggattta ggggggccagg ctggggtgga ctttgacccg 300
tccacacccc ccaagctcat gcccttctcc aatcagctag aaatgggctc cgagaagggt 360
gcagtgaggc ccacagcctt caagcctgtg ctgccacggt caggagccat cctgcactcc 420
tcccccggaga gtgccagcca ccagctgcac cccgcccctc cagacaagcc caaggagcag 480
gagctgaagc ctggcctgtg ctctggggcg ctgtcagact ccggccggaa ctccatgtcc 540
```

```
agcctgccca cacacagcac cagcagcagc taccagctgg acccgctggt cacacccgtg 600
ggacccacaa gccgttttgg gggctccgcc cacaacatca cccagggcat cgtcctccag 660
gacagcaaca tgatgagcct gaaggctctg tccttctccg acggaggtag caagctgggc 720
cactcgaaca aggcagacaa gggcccctcg tgtgtccgct cccccatctc cacggacgag 780
tgcagcatcc aggagctgga gcagaagctg ttggagaggg agggcgccct ccagaagctg 840
cagcgcagct ttgaggagaa ggagcttgcc tccagcctgg cctacgagga gcggccgcgg 900
cgctgcaggg acgagctgga gggcccggag cccaaaggcg gcaacaagct caagcaggcc 960
tcgcagaaga gccagcgcgc gcagcaggtc ctgcacctgc aggtactgca gcttcagcag 1020
gagaagcggc agctccggca ggagctcgag agcctcatga aggagcagga cctgctggag 1080
accaagctca ggtcctacga gagggagaag accagcttcg ccccgcgct ggaggagacc 1140
cagtgggagg tgtgccagaa gtcaggcgag atctccctcc tgaagcagca gctgaaggag 1200
tcccagacgg aggtgaacgc caaggctagc gagatcctgg gtctcaaggc acagctgaag 1260
gacacgcggg gcaagctgga gggcctggag ctgaggaccc aggacctgga gggcgccctg 1320
cgcaccaagg gcctggagct ggaggtctgt gagaatgagc tgcagcgcaa gaagaacgag 1380
gcggagctgc tgcgggagaa ggtgaacctg ctggagcagg agctgcagga gctgcgggcc 1440
caggccgccc tggcccgcga catggggccg cccaccttcc ccgaggacgt ccctgccctg 1500
cagcgggagc tggagcggct cgtgtggaag gaggagaagg agaaggtgat tcagtaccag 1560
aaacagctgc agcagagcta cgtggccatg taccagcgga accagcgcct ggagaaggcc 1620
ctgcagcagc tggcacgtgg ggacagcgcc ggggagccct ggaggttga cctggaaggg 1680
gctgacatcc cctacgagga catcatagcc actgagatct ga                     1722
```

<210> 15
<211> 76
<212> PRT
<213> Homo sapiens

<400> 15

```
Met Gly Ser Val Ser Ser Leu Ile Ser Gly His Ser Phe His Ser Lys
 1               5                  10                  15

His Cys Arg Ala Ser Gln Tyr Lys Leu Arg Lys Ser Ser His Leu Lys
            20                  25                  30

Lys Leu Asn Arg Tyr Ser Asp Gly Leu Leu Arg Phe Gly Phe Ser Gln
            35                  40                  45

Asp Ser Gly His Gly Lys Ala Met Thr Arg Cys Pro Arg Ala Ser Ser
    50                  55                  60

Met Ser Gly Ser Cys Gly Arg Arg Arg Arg Arg
65                  70                  75
```

<210> 16
<211> 210
<212> PRT
<213> Homo sapiens

<400> 16

```
Met Gly Ser Val Ser Ser Leu Ile Ser Gly His Ser Phe His Ser Lys
 1               5                  10                  15

His Cys Arg Ala Ser Gln Tyr Lys Leu Arg Lys Ser Ser His Leu Lys
            20                  25                  30

Lys Leu Asn Arg Tyr Ser Asp Gly Leu Leu Arg Phe Gly Phe Ser Gln
```

```
                35                      40                      45

     Asp Ser Gly His Gly Lys Ser Ser Ser Lys Met Gly Lys Ser Glu Asp
         50                  55                  60

     Phe Phe Tyr Ile Lys Val Ser Gln Lys Ala Arg Gly Ser His His Pro
     65                  70                  75                  80

     Asp Tyr Thr Ala Leu Ser Ser Gly Asp Leu Gly Gly Gln Ala Gly Val
                 85                  90                  95

     Asp Phe Asp Pro Ser Thr Pro Pro Lys Leu Met Pro Phe Ser Asn Gln
                 100                 105                 110

     Leu Glu Met Gly Ser Glu Lys Gly Ala Val Arg Pro Thr Ala Phe Lys
                 115                 120                 125

     Pro Val Leu Pro Arg Ser Gly Ala Ile Leu His Ser Ser Pro Glu Ser
         130                 135                 140

     Ala Ser His Gln Leu His Pro Ala Pro Pro Asp Lys Pro Lys Glu Gln
     145                 150                 155                 160

     Glu Leu Lys Pro Gly Leu Cys Ser Gly Ala Leu Ser Asp Ser Gly Arg
                 165                 170                 175

     Asn Ser Met Ser Ser Leu Pro Thr His Ser Ala Gly Glu Pro Leu Glu
                 180                 185                 190

     Val Asp Leu Glu Gly Ala Asp Ile Pro Tyr Glu Asp Ile Ile Ala Thr
                 195                 200                 205

     Glu Ile
         210


<210> 17
<211> 537
<212> PRT
<213> Homo sapiens

<400> 17
     Met Gly Ser Val Ser Ser Leu Ile Ser Gly His Ser Phe His Ser Lys
     1               5                   10                  15

     His Cys Arg Ala Ser Gln Tyr Lys Leu Arg Lys Ser Ser His Leu Lys
                 20                  25                  30

     Lys Leu Asn Arg Tyr Ser Asp Gly Leu Leu Arg Phe Gly Phe Ser Gln
                 35                  40                  45

     Asp Ser Gly His Gly Lys Ser Ser Ser Lys Met Gly Lys Ser Glu Asp
         50                  55                  60

     Phe Phe Tyr Ile Lys Val Ser Gln Lys Ala Arg Gly Ser His His Pro
     65                  70                  75                  80
```

```
Asp Tyr Thr Ala Leu Ser Ser Gly Asp Leu Gly Gly Gln Ala Gly Val
             85              90                  95

Asp Phe Asp Pro Ser Thr Pro Pro Lys Leu Met Pro Phe Ser Asn Gln
            100              105             110

Leu Glu Met Gly Ser Glu Lys Gly Ala Val Arg Pro Thr Ala Phe Lys
            115              120             125

Pro Val Leu Pro Arg Ser Gly Ala Ile Leu His Ser Ser Pro Glu Ser
    130              135             140

Ala Ser His Gln Leu His Pro Ala Pro Pro Asp Lys Pro Lys Glu Gln
145              150              155                 160

Glu Leu Lys Pro Gly Leu Cys Ser Gly Ala Leu Ser Asp Ser Gly Arg
                165             170             175

Asn Ser Met Ser Ser Leu Pro Thr His Ser Thr Ser Ser Ser Tyr Gln
            180              185             190

Leu Asp Pro Leu Val Thr Pro Val Gly Pro Thr Ser Arg Phe Gly Gly
        195              200             205

Ser Ala His Asn Ile Thr Gln Gly Ile Val Leu Gln Asp Ser Asn Met
    210              215             220

Met Ser Leu Lys Ala Leu Ser Phe Ser Asp Gly Gly Ser Lys Leu Gly
225              230             235                 240

His Ser Asn Lys Ala Asp Lys Gly Pro Ser Cys Val Arg Ser Pro Ile
            245             250             255

Ser Thr Asp Glu Cys Ser Ile Gln Glu Leu Glu Gln Lys Leu Leu Glu
            260             265             270

Arg Glu Gly Ala Leu Gln Lys Leu Gln Arg Ser Phe Glu Glu Lys Glu
        275             280             285

Leu Ala Ser Ser Leu Ala Tyr Glu Glu Arg Pro Arg Arg Cys Arg Asp
    290             295             300

Glu Leu Glu Gly Pro Glu Pro Lys Gly Gly Asn Lys Leu Lys Gln Ala
305             310             315                 320

Ser Gln Lys Ser Gln Arg Ala Gln Gln Val Leu His Leu Gln Val Leu
            325             330             335

Gln Leu Gln Gln Glu Lys Arg Gln Leu Arg Gln Glu Leu Glu Ser Leu
        340             345             350

Met Lys Glu Gln Asp Leu Leu Glu Thr Lys Leu Arg Ser Tyr Glu Arg
    355             360             365

Glu Lys Thr Ser Phe Gly Pro Ala Leu Glu Glu Thr Gln Trp Glu Val
    370             375             380
```

```
Cys Gln Lys Ser Gly Glu Ile Ser Leu Leu Lys Gln Gln Leu Lys Glu
385             390         395             400

Ser Gln Thr Glu Val Asn Ala Lys Ala Ser Glu Ile Leu Gly Leu Lys
                405             410             415

Ala Gln Leu Lys Asp Thr Arg Gly Lys Leu Glu Gly Leu Glu Leu Arg
            420             425             430

Thr Gln Asp Leu Glu Gly Ala Leu Arg Thr Lys Gly Leu Glu Leu Glu
        435             440             445

Val Cys Glu Asn Glu Leu Gln Arg Lys Lys Asn Glu Ala Glu Leu Leu
    450             455             460

Arg Glu Lys His Glu Arg Leu Val Trp Lys Glu Glu Lys Glu Lys Val
465             470             475             480

Ile Gln Tyr Gln Lys Gln Leu Gln Gln Ser Tyr Val Ala Met Tyr Gln
            485             490             495

Arg Asn Gln Arg Leu Glu Lys Ala Leu Gln Gln Leu Ala Arg Gly Asp
        500             505             510

Ser Ala Gly Glu Pro Leu Glu Val Asp Leu Glu Gly Ala Asp Ile Pro
        515             520             525

Tyr Glu Asp Ile Ile Ala Thr Glu Ile
    530             535
```

```
<210> 18
<211> 504
<212> PRT
<213> Homo sapiens

<400> 18
Met Gly Ser Val Ser Ser Leu Ile Ser Gly His Ser Phe His Ser Lys
    1               5               10              15


His Cys Arg Ala Ser Gln Tyr Lys Leu Arg Lys Ser Ser His Leu Lys
            20              25              30

Lys Leu Asn Arg Tyr Ser Asp Gly Leu Leu Arg Phe Gly Phe Ser Gln
            35              40              45

Asp Ser Gly His Gly Lys Ser Ser Ser Lys Met Gly Lys Ser Glu Asp
    50              55              60

Phe Phe Tyr Ile Lys Val Ser Gln Lys Ala Arg Gly Ser His His Pro
65              70              75              80

Asp Tyr Thr Ala Leu Ser Ser Gly Asp Leu Gly Gly Gln Ala Gly Val
            85              90              95

Asp Phe Asp Pro Ser Thr Pro Pro Lys Leu Met Pro Phe Ser Asn Gln
```

```
          100                    105                    110

Leu Glu Met Gly Ser Glu Lys Gly Ala Val Arg Pro Thr Ala Phe Lys
        115                 120             125

Pro Val Leu Pro Arg Ser Gly Ala Ile Leu His Ser Ser Pro Glu Ser
    130                 135             140

Ala Ser His Gln Leu His Pro Ala Pro Pro Asp Lys Pro Lys Glu Gln
145                 150             155                 160

Glu Leu Lys Pro Gly Leu Cys Ser Gly Ala Leu Ser Asp Ser Gly Arg
                165             170             175

Asn Ser Met Ser Ser Leu Pro Thr His Ser Thr Ser Ser Ser Tyr Gln
            180             185             190

Leu Asp Pro Leu Val Thr Pro Val Gly Pro Thr Ser Arg Phe Gly Gly
        195             200             205

Ser Ala His Asn Ile Thr Gln Gly Ile Val Leu Gln Asp Ser Asn Met
    210             215             220

Met Ser Leu Lys Ala Leu Ser Phe Ser Asp Gly Gly Ser Lys Leu Gly
225             230             235                 240

His Ser Asn Lys Ala Asp Lys Gly Pro Ser Cys Val Arg Ser Pro Ile
            245             250             255

Ser Thr Asp Glu Cys Ser Ile Gln Glu Leu Glu Gln Lys Leu Leu Glu
            260             265             270

Arg Glu Gly Ala Leu Gln Lys Leu Gln Arg Ser Phe Glu Glu Lys Glu
        275             280             285

Leu Ala Ser Ser Leu Ala Tyr Glu Glu Arg Pro Arg Arg Cys Arg Asp
    290             295             300

Glu Leu Glu Gly Pro Glu Pro Lys Gly Gly Asn Lys Leu Lys Gln Ala
305             310             315                 320

Ser Gln Lys Ser Gln Arg Ala Gln Gln Val Leu His Leu Gln Val Leu
            325             330             335

Gln Leu Gln Gln Glu Lys Arg Gln Leu Arg Gln Glu Leu Glu Ser Leu
        340             345             350

Met Lys Glu Gln Asp Leu Leu Glu Thr Lys Leu Arg Ser Tyr Glu Arg
        355             360             365

Glu Lys Thr Ser Phe Gly Pro Ala Leu Glu Glu Thr Gln Trp Glu Val
    370             375             380

Cys Gln Lys Ser Gly Glu Ile Ser Leu Leu Lys Gln Gln Leu Lys Glu
385             390             395                 400

Ser Gln Thr Glu Val Asn Ala Lys Ala Ser Glu Ile Leu Gly Leu Lys
```

```
                    405                    410                    415

Ala Gln Leu Lys Asp Thr Arg Gly Lys Leu Glu Gly Leu Glu Leu Arg
            420                 425                 430

Thr Gln Asp Leu Glu Gly Ala Leu Arg Thr Lys Gly Leu Glu Leu Glu
            435                 440                 445

Val Cys Glu Asn Glu Leu Gln Gln Ser Tyr Val Ala Met Tyr Gln Arg
        450                 455                 460

Asn Gln Arg Leu Glu Lys Ala Leu Gln Gln Leu Ala Arg Gly Asp Ser
465                 470                 475                 480

Ala Gly Glu Pro Leu Glu Val Asp Leu Glu Gly Ala Asp Ile Pro Tyr
                485                 490                 495

Glu Asp Ile Ile Ala Thr Glu Ile
            500
```

```
<210> 19
<211> 563
<212> PRT
<213> Homo sapiens

<400> 19
Met Gly Ser Val Ser Ser Leu Ile Ser Gly His Ser Phe His Ser Lys
    1               5                   10                  15

His Cys Arg Ala Ser Gln Tyr Lys Leu Arg Lys Ser Ser His Leu Lys
            20                  25                  30

Lys Leu Asn Arg Tyr Ser Asp Gly Leu Leu Arg Phe Gly Phe Ser Gln
            35                  40                  45

Asp Ser Gly His Gly Lys Ser Ser Ser Lys Met Gly Lys Ser Glu Asp
        50                  55                  60

Phe Phe Tyr Ile Lys Val Ser Gln Lys Ala Arg Gly Ser His His Pro
65                  70                  75                  80

Asp Tyr Thr Ala Leu Ser Ser Gly Asp Leu Gly Gly Gln Ala Gly Val
                85                  90                  95

Asp Phe Asp Pro Ser Thr Pro Pro Lys Leu Met Pro Phe Ser Asn Gln
                100                 105                 110

Leu Glu Met Gly Ser Glu Lys Gly Ala Val Arg Pro Thr Ala Phe Lys
            115                 120                 125

Pro Val Leu Pro Arg Ser Gly Ala Ile Leu His Ser Ser Pro Glu Ser
        130                 135                 140

Ala Ser His Gln Leu His Pro Ala Pro Pro Asp Lys Pro Lys Glu Gln
145                 150                 155                 160
```

Glu Leu Lys Pro Gly Leu Cys Ser Gly Ala Leu Ser Asp Ser Gly Arg
                165   170   175

Asn Ser Met Ser Ser Leu Pro Thr His Ser Thr Ser Ser Ser Tyr Gln
            180   185   190

Leu Asp Pro Leu Val Thr Pro Val Gly Pro Thr Ser Arg Phe Gly Gly
        195   200   205

Ser Ala His Asn Ile Thr Gln Gly Ile Val Leu Gln Asp Ser Asn Met
    210   215   220

Met Ser Leu Lys Ala Leu Ser Phe Ser Asp Gly Gly Ser Lys Leu Gly
225   230   235   240

His Ser Asn Lys Ala Asp Lys Gly Pro Ser Cys Val Arg Ser Pro Ile
            245   250   255

Ser Thr Asp Glu Cys Ser Ile Gln Glu Leu Glu Gln Lys Leu Leu Glu
        260   265   270

Arg Glu Gly Ala Leu Gln Lys Leu Gln Arg Ser Phe Glu Glu Lys Glu
        275   280   285

Leu Ala Ser Ser Leu Ala Tyr Glu Glu Arg Pro Arg Arg Cys Arg Asp
    290   295   300

Glu Leu Glu Gly Pro Glu Pro Lys Gly Gly Asn Lys Leu Lys Gln Ala
305   310   315   320

Ser Gln Lys Ser Gln Arg Ala Gln Gln Val Leu His Leu Gln Val Leu
            325   330   335

Gln Leu Gln Gln Glu Lys Arg Gln Leu Arg Gln Glu Leu Glu Ser Leu
        340   345   350

Met Lys Glu Gln Asp Leu Leu Glu Thr Lys Leu Arg Ser Tyr Glu Arg
        355   360   365

Glu Lys Thr Ser Phe Gly Pro Ala Leu Glu Glu Thr Gln Trp Glu Val
    370   375   380

Cys Gln Lys Ser Gly Glu Ile Ser Leu Leu Lys Gln Gln Leu Lys Glu
385   390   395   400

Ser Gln Thr Glu Val Asn Ala Lys Ala Ser Glu Ile Leu Gly Leu Lys
            405   410   415

Ala Gln Leu Lys Asp Thr Arg Gly Lys Leu Glu Gly Leu Glu Leu Arg
        420   425   430

Thr Gln Asp Leu Glu Gly Ala Leu Arg Thr Lys Gly Leu Glu Leu Glu
        435   440   445

Val Cys Glu Asn Glu Leu Gln Arg Lys Lys Asn Glu Ala Glu Leu Leu
450   455   460

```
Arg Glu Lys Val Asn Leu Leu Glu Arg Leu Arg Ala Glu Leu Arg Glu
465             470             475             480

Glu Arg Gln Gly His Asp Gln Met Ser Ser Gly Phe Gln His Glu Arg
                485             490             495

Leu Val Trp Lys Glu Glu Lys Glu Lys Val Ile Gln Tyr Gln Lys Gln
            500             505             510

Leu Gln Gln Ser Tyr Val Ala Met Tyr Gln Arg Asn Gln Arg Leu Glu
        515             520             525

Lys Ala Leu Gln Gln Leu Ala Arg Gly Asp Ser Ala Gly Glu Pro Leu
    530             535             540

Glu Val Asp Leu Glu Gly Ala Asp Ile Pro Tyr Glu Asp Ile Ile Ala
545             550             555             560

Thr Glu Ile


<210> 20
<211> 573
<212> PRT
<213> Homo sapiens

<400> 20
Met Gly Ser Val Ser Ser Leu Ile Ser Gly His Ser Phe His Ser Lys
  1             5               10              15

His Cys Arg Ala Ser Gln Tyr Lys Leu Arg Lys Ser Ser His Leu Lys
            20              25              30

Lys Leu Asn Arg Tyr Ser Asp Gly Leu Leu Arg Phe Gly Phe Ser Gln
        35              40              45

Asp Ser Gly His Gly Lys Ser Ser Ser Lys Met Gly Lys Ser Glu Asp
    50              55              60

Phe Phe Tyr Ile Lys Val Ser Gln Lys Ala Arg Gly Ser His His Pro
65              70              75              80

Asp Tyr Thr Ala Leu Ser Ser Gly Asp Leu Gly Gly Gln Ala Gly Val
            85              90              95

Asp Phe Asp Pro Ser Thr Pro Pro Lys Leu Met Pro Phe Ser Asn Gln
            100             105             110

Leu Glu Met Gly Ser Glu Lys Gly Ala Val Arg Pro Thr Ala Phe Lys
        115             120             125

Pro Val Leu Pro Arg Ser Gly Ala Ile Leu His Ser Ser Pro Glu Ser
    130             135             140

Ala Ser His Gln Leu His Pro Ala Pro Pro Asp Lys Pro Lys Glu Gln
```

```
        145                    150                    155                    160
Glu Leu Lys Pro Gly Leu Cys Ser Gly Ala Leu Ser Asp Ser Gly Arg
            165                    170                    175

Asn Ser Met Ser Ser Leu Pro Thr His Ser Thr Ser Ser Ser Tyr Gln
            180                    185                    190

Leu Asp Pro Leu Val Thr Pro Val Gly Pro Thr Ser Arg Phe Gly Gly
            195                    200                    205

Ser Ala His Asn Ile Thr Gln Gly Ile Val Leu Gln Asp Ser Asn Met
    210                    215                    220

Met Ser Leu Lys Ala Leu Ser Phe Ser Asp Gly Gly Ser Lys Leu Gly
225                    230                    235                    240

His Ser Asn Lys Ala Asp Lys Gly Pro Ser Cys Val Arg Ser Pro Ile
            245                    250                    255

Ser Thr Asp Glu Cys Ser Ile Gln Glu Leu Glu Gln Lys Leu Leu Glu
            260                    265                    270

Arg Glu Gly Ala Leu Gln Lys Leu Gln Arg Ser Phe Glu Glu Lys Glu
            275                    280                    285

Leu Ala Ser Ser Leu Ala Tyr Glu Glu Arg Pro Arg Arg Cys Arg Asp
    290                    295                    300

Glu Leu Glu Gly Pro Glu Pro Lys Gly Gly Asn Lys Leu Lys Gln Ala
305                    310                    315                    320

Ser Gln Lys Ser Gln Arg Ala Gln Gln Val Leu His Leu Gln Val Leu
            325                    330                    335

Gln Leu Gln Gln Glu Lys Arg Gln Leu Arg Gln Glu Leu Glu Ser Leu
            340                    345                    350

Met Lys Glu Gln Asp Leu Leu Glu Thr Lys Leu Arg Ser Tyr Glu Arg
            355                    360                    365

Glu Lys Thr Ser Phe Gly Pro Ala Leu Glu Glu Thr Gln Trp Glu Val
            370                    375                    380

Cys Gln Lys Ser Gly Glu Ile Ser Leu Leu Lys Gln Gln Leu Lys Glu
385                    390                    395                    400

Ser Gln Thr Glu Val Asn Ala Lys Ala Ser Glu Ile Leu Gly Leu Lys
            405                    410                    415

Ala Gln Leu Lys Asp Thr Arg Gly Lys Leu Glu Gly Leu Glu Leu Arg
            420                    425                    430

Thr Gln Asp Leu Glu Gly Ala Leu Arg Thr Lys Gly Leu Glu Leu Glu
            435                    440                    445

Val Cys Glu Asn Glu Leu Gln Arg Lys Lys Asn Glu Ala Glu Leu Leu
```

```
        450                     455                     460

Arg Glu Lys Val Asn Leu Leu Glu Gln Glu Leu Gln Glu Leu Arg Ala
465                 470                 475                 480

Gln Ala Ala Leu Ala Arg Asp Met Gly Pro Pro Thr Phe Pro Glu Asp
                485                 490                 495

Val Pro Ala Leu Gln Arg Glu Leu Glu Arg Leu Val Trp Lys Glu Glu
            500                 505                 510

Lys Glu Lys Val Ile Gln Tyr Gln Lys Gln Leu Gln Gln Ser Tyr Val
        515                 520                 525

Ala Met Tyr Gln Arg Asn Gln Arg Leu Glu Lys Ala Leu Gln Gln Leu
    530                 535                 540

Ala Arg Gly Asp Ser Ala Gly Glu Pro Leu Glu Val Asp Leu Glu Gly
545                 550                 555                 560

Ala Asp Ile Pro Tyr Glu Asp Ile Ile Ala Thr Glu Ile
                565                 570
```

<210> 21
<211> 591
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: F37 Probe

<400> 21
```
ggactctgcc cctggacctg ggaacgactg gactgtcacg gggttccctc ctagctctcc 60
cagtgaactc ctgccaggca cacacagccc ctatagcact gagctcacat gggactggga 120
tatgggggca tctcttcccc agagaggcac tcagtgagcc tcctgtgcct ggccccagtc 180
tgggccatct cttaggtgag acagttgccc gaaactaagc caggcctggc tggaggagca 240
gcagcttggg gagagggatt tccctgcaga cctcaagcca tcatgcggtg ggtgctgcca 300
tgacagaggc tgcacccctg ggccagcggg gctgctcacc cacctcttgt gcaaggtggc 360
ctttgtgctg cgcctgcagg cagagctgga gcccccagca gaggcaggct gggacggacc 420
agcatctgga agatgtacat agttattttt ctctttgtgg tttcttgttt ggtttggttt 480
gcttttgaca gcttcatttt attttttgacg tcacttttg gccatgtaaa ctatttgtgg 540
caattttatg ttttatttta tgaataaaga atgccatttc tcacgccctc t         591
```

<210> 22
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
    region amplificatin primer G12

<400> 22
gctgccacag cctttccaag acc   23

<210> 23
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplificatin primer G13

<400> 23
taccggttga gcttcttgag gtg   23

<210> 24
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer G14.2

<400> 24
acagcttcca cagcaagcac tgc   23

<210> 25
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer G15

<400> 25
attggagaag ggcatgagct t   21

<210> 26
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer G16

<400> 26
tggactttga cccgtccaca cc   22

<210> 27
<211> 23
<212> DNA
<213> Artificial Sequence

```
<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer IntABR

<400> 27
gtttccaacc cacttaccct tgc                                    23


<210> 28
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer IntABF

<400> 28
gcaggggagg catgagtcac c                                      21


<210> 29
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer G17

<400> 29
ggcttcagct cctgctcctt gg                                     22


<210> 30
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer G20

<400> 30
acaacatcac ccagggcatc gtc                                    23


<210> 31
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer G21
```

```
<400> 31
cctccagctc gtccctgcag c                                          21


<210> 32
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer G32

<400> 32
actgcagctt cagcaggaga agc                                        23


<210> 33
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer IntBCR

<400> 33
ctgaccaccc aaacccatga gc                                         22


<210> 34
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer IntBCF

<400> 34
tcacctcttg gcactctgtc tcc                                        23


<210> 35
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer Mut6

<400> 35
caggtcctgg gtcctcagct c                                          21


<210> 36
```

```
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
     region amplification primer G1

<400> 36
tgaacgccaa ggctagcgag atc                                    23


<210> 37
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
     region amplification primer G2

<400> 37
gctcctgcag ctcctgctcc ag                                     22


<210> 38
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
     region amplification primer G75

<400> 38
cccaccttcc ccgaggacgt c                                      21


<210> 39
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
     region amplification primer G82

<400> 39
agcccgagga catctggtca tgg                                    23


<210> 40
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
```

<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer G5

<400> 40
cctgccctgc agcgggagct ggag   24

<210> 41
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer G6

<400> 41
agctgctgca gggccttctc cag   23

<210> 42
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer G7

<400> 42
cagtaccaga aacagctgca gcagagc   27

<210> 43
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: FEZ1 alterable
      region amplification primer G8

<400> 43
ccctgcctcc cagtgccagg tc   22

<210> 44
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: First strand
      of partially-double stranded adapter-linker

<400> 44
gatctcgacg aattcgtgag acct   24

```
<210> 45
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Second strand
      of partially-double stranded adapter-linker

<400> 45
tggtctcacg aattcgtcga                                          20


<210> 46
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Donor site
      sequence of truncated FEZ1 truncation region

<400> 46
tcccaggact ccggtcacgg caa                                      23


<210> 47
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Acceptor site
      sequence of truncated FEZ1 truncation region

<400> 47
gagcggcaag gccatgacca g                                        21


<210> 48
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Donor site
      sequence of truncated FEZ1 truncation region

<400> 48
agcctgccca cacacagcac cag                                      23


<210> 49
<211> 21
<212> DNA
```

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Acceptor site
     sequence of truncated FEZ1 truncation region

<400> 49
cagcgccggg gagcccttgg a   21

<210> 50
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Donor site
     sequence of truncated FEZ1 truncation region

<400> 50
gtgagaatga gctgcagcgc aag   23

<210> 51
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Acceptor site
     sequence of truncated FEZ1 truncation region

<400> 51
cagcagagct acgtggccat gt   22

<210> 52
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Donor site
     sequence of truncated FEZ1 truncation region

<400> 52
agctgctgcg ggagaaggtg aac   23

<210> 53
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Acceptor site
     sequence of truncated FEZ1 truncation region

```
<400> 53
cagcatgagc ggctcgtgtg ga                                           22


<210> 54
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Donor  site
      sequence of truncated FEZ1 truncation region

<400> 54
aggtgaacct gctggagcag gag                                          23


<210> 55
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Acceptor site
      sequence of truncated FEZ1 truncation region

<400> 55
gagcggctgc gggccgagct gc                                           22


<210> 56
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Donor site
      sequence of truncated FEZ1 truncation region

<400> 56
ctgcagcggg agctggagcg gctg                                         24


<210> 57
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Acceptor site
      sequence of truncated FEZ1 truncation region

<400> 57
gagcggctcg tgtggaagga g                                            21
```

```
<210> 58
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer for
      amplifying FEZ1 cDNA

<400> 58
cagatgggca gcgtcagtag cctcatc                                          27


<210> 59
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer for
      amplifying FEZ1 cDNA

<400> 59
tcagatctca gtggctatga tgtc                                             24


<210> 60
<211> 8073
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Nucleotide
      sequence of vector pQBI-AdCMV5-IRES-GFP

<400> 60
gaattcggcc ggccatcatc aataatatac cttattttgg attgaagcca atatgataat 60
gagggggtgg agtttgtgac gtggcgcggg gcgtgggaac ggggcgggtg acgtagtagt 120
gtggcggaag tgtgatgttg caagtgtggc ggaacacatg taagcgacgg atgtggcaaa 180
agtgacgttt ttggtgtgcg ccggtgtaca caggaagtga caattttcgc gcggtttttag 240
gcggatgttg tagtaaattt gggcgtaacc gagtaagatt tggccatttt cgcgggaaaa 300
ctgaataaga ggaagtgaaa tctgaataat tttgtgttac tcatagcgcg taatatttgt 360
ctagggccgc cagatcgatc tccgagggat ctcgaccaaa tgatttgccc tcccatatgt 420
ccttccgagt gagagacaca aaaaattcca acacactatt gcaatgaaaa taaatttcct 480
ttattagcca gaggtcgagg tcgggggatc ctcagttgta cagttcatcc atgccatgtg 540
taatcccagc agctgttaca aactcaagaa ggaccatgtg gtctctcttt tcgttgggat 600
ctttcgaaag ggcagattgt gtggacaggt aatggttgtc tggtaaaagg acagggccat 660
cgccaattgg agtattttgt tgataatggt ctgctagttg aacgcttcca tcttcaatgt 720
tgtggcgggt cttgaagttc actttgattc cattcttttg tttgtctgcc atgatgtata 780
cattgtgtga gttatagttg tattccaatt tgtgtcccag aatgttgcca tcttccttga 840
agtcaatacc ttttaactcg attctattaa caagggtatc accttcaaac ttgacttcag 900
cacgtgtctt gtagttgccg tcatctttga agaagatggt cctttcctgt acataacctt 960
cgggcatggc actcttgaaa aagtcatgcc gtttcatatg atccgggtat cttgaaaagc 1020
attgaacacc atagcacaga gtagtgacta gtgttggcca tggaacaggc agtttgccag 1080
tagtgcagat gaacttcagg gtaagttttc cgtatgttgc atcaccttca ccctctccac 1140
tgacagagaa cttgtggccg ttaacatcac catctaattc aacaagaatt gggacaactc 1200
cagtgaagag ttcttctcct ttgctagcca tggcggatcc ggctgaacgg tctggttata 1260
```

```
ggtacattga gcaactgact gaaatgcctc aaaatgttct ttacgatgcc attgggatat 1320
atcaacggtg gtatatccag tgattttttt ctccatggtt gtggcaagct tatcatcgtg 1380
tttttcaaag gaaaaccacg tccccgtggt tcggggggcc tagacgtttt ttaacctcga 1440
ctaaacacat gtaaagcatg tgcaccgagg ccccagatca gatcccatac aatggggtac 1500
cttctgggca tccttcagcc ccttgttgaa tacgcttgag gagagccatt tgactctttc 1560
cacaactatc caactcacaa cgtggcactg gggttgtgcc gcctttgcag gtgtatctta 1620
tacacgtggc ttttggccgc agaggcacct gtcgccaggt gggggggttcc gctgcctgca 1680
aagggtcgct acagacgttg tttgtcttca agaagcttcc agaggaactg cttccttcac 1740
gacattcaac agaccttgca ttcctttggc gagaggggaa agaccctag gaatgctcgt 1800
caagaagaca gggccaggtt tccgggccct cacattgcca aaagacggca atatggtgga 1860
aaataacata tagacaaacg cacaccggcc ttattccaag cggcttcggc cagtaacgtt 1920
agggggggggg gagggagagg gcggaattcg gagagggcgg aattcggggc cgcggagatc 1980
ttccaaactt ggacctggga gtggacacct gtggagagaa aggcaaagtg gatgtcattg 2040
tcactcaagt gtatggccag atcgggccag gtgaatatca aatcctcctc gtttttggaa 2100
actgacaatc ttagcgcaga agtcatgccc gcttttgaga gggagtactc accccaacag 2160
ctggatctca agcctgccac acctcacctc gaccatccgc cggctcaaga ccgcctactt 2220
taattacatc atcagcagca cctccgccag aaacaacccc gaccgccacc cgctgccgcc 2280
cgccacggtg ctcagcctac cttgcgactg tgactggtta gacgcctttc tcgagaggtt 2340

ttccgatccg gtcgatgcgg actggctcag gtccctcggt ggcggagtac cgttcggagg 2400
ccgacgggtt tccgatccaa gagtactgga aagaccgcga agagtttgtc ctcaaccgcg 2460
agcccaacag ctggccctcg cagacagcga tgcggaagag agtgaggatc tgacggttca 2520
ctaaacgagc tctgcttata tagacctccc accgtacacg cctaccgccc atttgcgtca 2580
acggggcggg gttattacga cattttggaa agtcccgttg attttggtgc caaaacaaac 2640
tcccattgac gtcaatgggg tggagacttg gaaatccccg tgagtcaaac cgctatccac 2700
gcccattggt gtactgccaa aaccgcatca ccatggtaat agcgatgact aatacgtaga 2760
tgtactgcca agtaggaaag tcccgtaagg tcatgtactg ggcataatgc caggcgggcc 2820
atttaccgtc attgacgtca ataggggcg gacttggcat atgatacact tgatgtactg 2880
ccaagtgggc agtttaccgt aaatactcca cccattgacg tcaatggaaa gtccctattg 2940
gcgttactat gggaacatac gtcattattg acgtcaatgg gcgggggtcg ttgggcggtc 3000
agccaggcgg gccatttacc gtaagttatg taacgcggaa ctccatatat gggctatgaa 3060
ctaatgaccc cgtaattgat tactattaat aactagtcaa taatcaatgt caacatggcg 3120
gtcatattgg acatgagcca atataaatgt acatattatg atatagatac aacgtatgca 3180
atggccaata gccaatattg atttatgcta tataaccaat gactaatatg gctaattgcc 3240
aatattgatt caatgtatag atcgatctgg aaggtgctga ggtacgatga gacccgcacc 3300
aggtgcagac cctgcgagtg tggcggtaaa catattagga accagcctgt gatgctggat 3360
gtgaccgagg agctgaggcc cgatcacttg gtgctggcct gcacccgcgc tgagtttggc 3420
tctagcgatg aagatacaga ttgaggtact gaaatgtgtg ggcgtggctt aagggtggga 3480
aagaatatat aaggtggggg tcttatgtag ttttgtatct gttttgcagc agccgccgcc 3540
gccatgagca ccaactcgtt tgatggaagc attgtgagct catatttgac aacgcgcatg 3600
cccccatggg ccggggtgcg tcagaatgtg atgggctcca gcattgatgg tcgccccgtc 3660
ctgcccgcaa actctactac cttgacctac gagaccgtgt ctggaacgcc gttggagact 3720
gcagcctccg ccgccgcttc agccgctgca gccaccgccc gcgggattgt gactgacttt 3780
gctttcctga gcccgcttgc aagcagtgca gcttcccgtt catccgcccg cgatgacaag 3840
ttgacggctc ttttggcaca attggattct ttgacccggg aacttaatgt cgtttctcag 3900
cagctgttgg atctgcgcca gcaggtttct gccctgaagg cttcctcccc tcccaatgcg 3960
gtttaaaaca taaataaaaa accagactct gtttggattt ggatcaagca agtgtcttgc 4020
tgtctttatt taggggtttt gcgcgcgcgg taggcccggg accagcggtc tcggtcgttg 4080
agggtcctgt gtatttttc caggacgtgg taaaggtgac tctggatgtt cagatacatg 4140
ggcataagcc cgtctctggg gtggaggtag caccactgca gagcttcatg ctgcggggtg 4200
gtgttgtaga tgatccagtc gtagcaggag cgctgggcgt ggtgcctaaa aatgtctttc 4260
agtagcaagc tgattgccag gggcaggccc ttggtgtaag tgtttacaaa gcggttaagc 4320
tgggatgggt gcatacgtgg ggatatgaga tgcatcttgg actgtatttt taggttggct 4380
atgttcccag ccatatccct ccggggattc atgttgtgca gaaccaccag cacagtgtat 4440
ccggtgcact tgggaaattt gtcatgtagc ttagaaggaa atgcgtggaa gaacttggag 4500
acgcccttgt gacctccaag attttccatg cattcgtcca taatgatggc aatgggccca 4560
cgggcggcgg cctgggcgaa gatatttctg ggatcactaa cgtcatagtt gtgttccagg 4620
```

```
atgagatcgt cataggccat ttttacaaag cgcgggcgga gggtgccaga ctgcggtata 4680
atggttccat ccggcccagg ggcgtagtta ccctcacaga tttgcatttc ccacgctttg 4740
agttcagatg gggggatcat gtctacctgc ggggcgatga agaaaacggt ttccggggta 4800
ggggagatca gctgggaaga aagcaggttc ctgagcagct gcgacttacc gcagccggtg 4860
ggcccgtaaa tcacacctat taccgggtgc aactggtagt taagagagct gcagctgccg 4920
tcatccctga gcaggggggc cacttcgtta agcatgtccc tgactcgcat gttttccctg 4980
accaaatccg ccagaaggcg ctcgccgccc agcgatagca gttcttgcaa ggaagcaaag 5040
tttttcaacg gtttgagacc gtccgccgta ggcatgcttt tgagcgtttg accaagcagt 5100
tccaggcggt cccacagctc ggtcacctgc tctacggcat ctcgatccag catatctcct 5160
cgtttcgcgg gttggggcgg ctttcgctgt acggcagtag tcggtgctcg tccagacggg 5220
ccagggtcat gtctttccac gggcgcaggg tcctcgtcag cgtagtctgg gtcacggtga 5280
aggggtgcgc tccgggctgc gcgctggcca gggtgcgctt gaggctggtc ctgctggtgc 5340
tgaagcgctg ccggtcttcg ccctgcgcgt cggccaggta gcatttgacc atggtgtcat 5400
agtccagccc ctccgcggcg tggcccttgg cgcgcagctt gcccttggag gaggcgccgc 5460
acgaggggca gtgcagactt ttgagggcgt agagcttggg cgcgagaaat accgattccg 5520
gggagtaggc atccgcgccg caggccccgc agacggtctc gcattccacg agccaggtga 5580
gctctggccg ttcggggtca aaaaccaggt ttcccccatg cttttgatg cgtttcttac 5640
ctctggtttc catgagccgg tgtccacgct cggtgacgaa aaggctgtcc gtgtccccgt 5700
atacagactt gagaggcctg tcctcgaccg atgcccttga gagccttcaa cccagtcagc 5760
tccttccggt gggcgcgggg catgactatc gtcgccgcac ttatgactgt cttctttatc 5820
atgcaactcg taggacaggt gccggcagcg ctctgggtca tttcggcga ggaccgcttt 5880
cgctggagcg cgacgatgat cggcctgtcg cttgcggtat tcggaatctt gcacgccctc 5940
gctcaagcct tcgtcactgg tcccgccacc aaacgtttcg gcgagaagca ggccattatc 6000
gccggcatgg cggccgacgc gctgggctac gtcttgctgg cgttcgcgac gcgaggctgg 6060
atggccttcc ccattatgat tcttctcgct tccggcggca tcgggatgcc cgcgttgcag 6120
gccatgctgt ccaggcaggt agatgacgac catcagggac agcttcaagg atcgctcgcg 6180
gctcttacca gctgagcaaa aggccagcaa aaggccagga accgtaaaaa ggccgcgttg 6240
ctggcgtttt tccataggct ccgcccccct gacgagcatc acaaaaatcg acgctcaagt 6300
cagaggtggc gaaacccgac aggactataa agataccagg cgtttccccc tggaagctcc 6360
ctcgtgcgct ctcctgttcc gaccctgccg cttaccggat acctgtccgc ctttctccct 6420
tcgggaagcg tggcgctttc tcaatgctca cgctgtaggt atctcagttc ggtgtaggtc 6480
gttcgctcca agctgggctg tgtgcacgaa ccccccgttc agcccgaccg ctgcgcctta 6540
tccggtaact atcgtcttga gtccaacccg gtaagacacg acttatcgcc actggcagca 6600
gccactggta acaggattag cagagcgagg tatgtaggcg gtgctacaga gttcttgaag 6660
tggtggccta actacggcta cactagaagg acagtatttg gtatctgcgc tctgctgaag 6720
ccagttacct tcggaaaaag agttggtagc tcttgatccg gcaaacaaac caccgctggt 6780
agcggtggtt tttttgtttg caagcagcag attacgcgca gaaaaaaagg atctcaagaa 6840
gatcctttga tcttttctac ggggtctgac gctcagtgga acgaaaactc acgttaaggg 6900
attttggtca tgagattatc aaaaaggatc ttcacctaga tccttttaaa ttaaaaatga 6960
agttttaaat caatctaaag tatatatgag taaacttggt ctgacagtta ccaatgctta 7020
atcagtgagg cacctatctc agcgatctgt ctatttcgtt catccatagt tgcctgactc 7080
ccgtcgtgt agataactac gatacgggag ggcttaccat ctggccccag tgctgcaatg 7140
ataccgcgag acccacgctc accggctcca gatttatcag caataaacca gccagccgga 7200
agggccgagc gcagaagtgg tcctgcaact ttatccgcct ccatccagtc tattaattgt 7260
tgccgggaag ctagagtaag tagttcgcca gttaatagtt tgcgcaacgt tgttgccatt 7320
gctgcaggca tcgtggtgtc acgctcgtcg tttggtatgg cttcattcag ctccggttcc 7380
caacgatcaa ggcgagttac atgatccccc atgttgtgca aaaaagcggt tagctccttc 7440
ggtcctccga tcgttgtcag aagtaagttg gccgcagtgt tatcactcat ggttatggca 7500
gcactgcata attctcttac tgtcatgcca tccgtaagat gcttttctgt gactggtgag 7560
tactcaacca agtcattctg agaatagtgt atgcggcgac cgagttgctc ttgcccggcg 7620
tcaacacggg ataataccgc gccacatagc agaactttaa aagtgctcat cattggaaaa 7680
cgttcttcgg ggcgaaaact ctcaaggatc ttaccgctgt tgagatccag ttcgatgtaa 7740
cccactcgtg cacccaactg atcttcagca tcttttactt tcaccagcgt ttctgggtga 7800
gcaaaaacag gaaggcaaaa tgccgcaaaa aagggaataa gggcgacacg gaaatgttga 7860
atactcatac tcttcctttt tcaatattat tgaagcattt atcagggtta ttgtctcatg 7920
agcggataca tatttgaatg tatttagaaa aataaacaaa taggggttcc gcgcacattt 7980
ccccgaaaag tgccacctga cgtctaagaa accattatta tcatgacatt aacctataaa 8040
```

```
aataggcgta tcacgaggcc ctttcgtctt caa                          8073


<210> 61
<211> 11
<212> DNA
<213> Artificial Sequence


<220>
<223> Description of Artificial Sequence: Example

<400> 61
aaccaaaaaa a                                                  11


<210> 62
<211> 11
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Example

<400> 62
aaccaaaaaa t                                                  11


<210> 63
<211> 11
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Example


<400> 63
aaccaaaaaa c                                                  11


<210> 64
<211> 11
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Example

<400> 64
aaccaaaaaa g                                                  11


<210> 65
```

```
<211> 25
<212> DNA
<213> Homo sapiens

<400> 65
tgcgcaagtc ctcccacctc aagaa                                        25


<210> 66
<211> 24
<212> DNA
<213> Homo sapiens

<400> 66
gcgcaagtcc ccccacctca agaa                                         24


<210> 67
<211> 27
<212> DNA
<213> Homo sapiens

<400> 67
ggctccgaga agggtgcagt gaggccc                                      27


<210> 68
<211> 27
<212> DNA
<213> Homo sapiens

<400> 68
ggctccgagg agggtgcagt gaggccc                                      27


<210> 69
<211> 27
<212> DNA
<213> Homo sapiens

<400> 69
gctccagctc ccgctgcagg gcaggga                                      27


<210> 70
<211> 27
<212> DNA
<213> Homo sapiens

<400> 70
gctccagctc ccgctacagg gcaggga                                      27
```